



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/801,712 | 03/09/2001 | Eugenia Kumacheva | 107600 | 5107 |

7590 03/13/2003

OLIFF & BERRIDGE, PLC
P.O. Box 19928
Alexandria, VA 22320

EXAMINER

ANGEBRANDT, MARTIN J

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1756

DATE MAILED: 03/13/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,712

Applicant(s)

KUMACHEVA ET AL.

Examiner

Martin J Angebranndt

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 June 2001 and 02 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3 & 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1756

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15-18,27,29-32 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Nakajima et al. '590.

See comparative example 1 (col. 20+) and corresponding figure 16 which shows the coating on the microcapsules to form the second shell/continuous matrix. The core is an oily liquid

4. Claims 15-18,27,29-32 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Sekine et al. '629.

See example 1, where at least some of the resin forming the shell is found in the core and the result is dispersed in a PVA matrix.

5. Claims 15-18,27,29-32 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Matsushita et al. '695.

Art Unit: 1756

See example 1, where at least some of the resin forming the shell is found in the core and the result is dispersed in a polyester resin matrix.

6 Claims 15-18,27,29-32 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Kubo et al. '259.

See example 1, where at least some of the resin forming the shell is found in the core and the result is dispersed in a PVA matrix.

6. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kalinina et al., "A 'Core-Shell' Approach to Producing 3D polymer nanocomposites", *Macromolecules*, Vol. 32 (1999) pp, 4122-4129, in view of Matsushita et al. '695 or Sekine et al. '629.

The three stage process for forming the core shell polymer composite is disclosed. The results of the variation of the conditions in terms of the volume fraction of the core and shell are disclosed in table 3. The use of photobleaching is also described with respect to reference 13 (page 4129) The use of crosslinking of the SFP to produce rigid shells with soft cores is disclosed. This would allow the core to be dissolved.

It would have been obvious to one skilled in the art to modify the process of Kalinina et al., "A 'Core-Shell' Approach to Producing 3D polymer nanocomposites", *Macromolecules*, Vol. 32 (1999) pp, 4122-4129 by forming the liquid cores based upon the direction within the reference and then coating these in a matrix as taught by Matsushita et al. '695 or Sekine et al. '629 as is conventional in the art to adhere the particles to the substrate upon which they are coated, since the coalescence would not work with the rigid shell to produce the matrix (the capsules would rupture) and to use the result in the recording process described in Kalinina et al.,

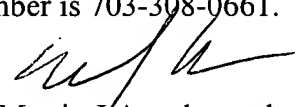
Art Unit: 1756

"A 'Core-Shell' Approach to Producing 3D polymer nanocomposites", Macromolecules, Vol. 32 (1999) pp, 4122-4129 with respect to reference 13.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranntt whose telephone number is 703-308-4397. The examiner can normally be reached on Available Mondays-Thursday and alternative Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Martin J Angebranntt
Primary Examiner
Art Unit 1756

March 9, 2003